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FIG.1

Hybridization Detection via *Intensity* Measurement:





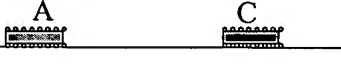


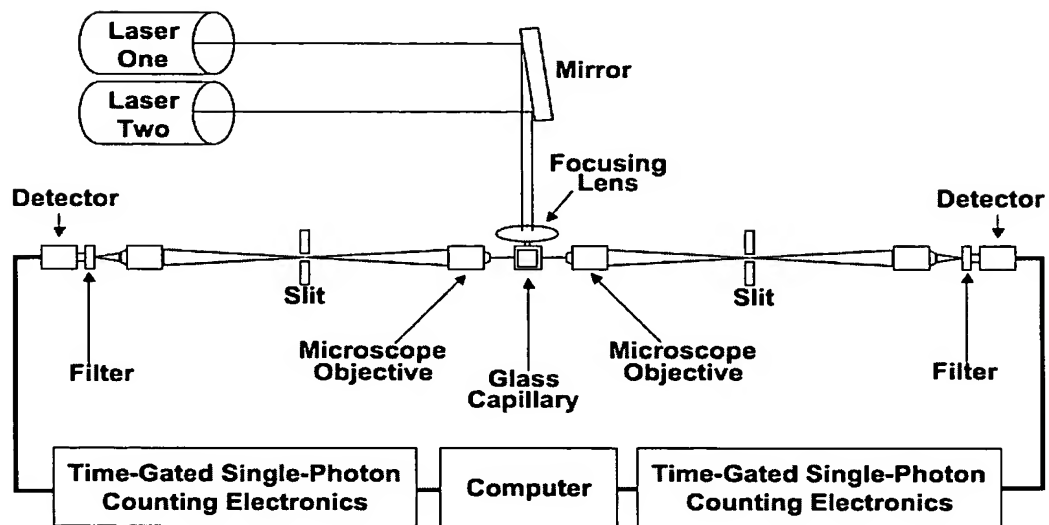
<u>Nucleic Acid Fragments</u>		<u>Fluorescence</u>
Probe A 	=	20 Intensity
Probe B 	=	60 Intensity
Probe C 	=	70 Intensity
Target 	=	80 Intensity
Target 	=	90 Intensity
Target 	=	150 Intensity
Target 	=	130 Intensity

FIG. 2

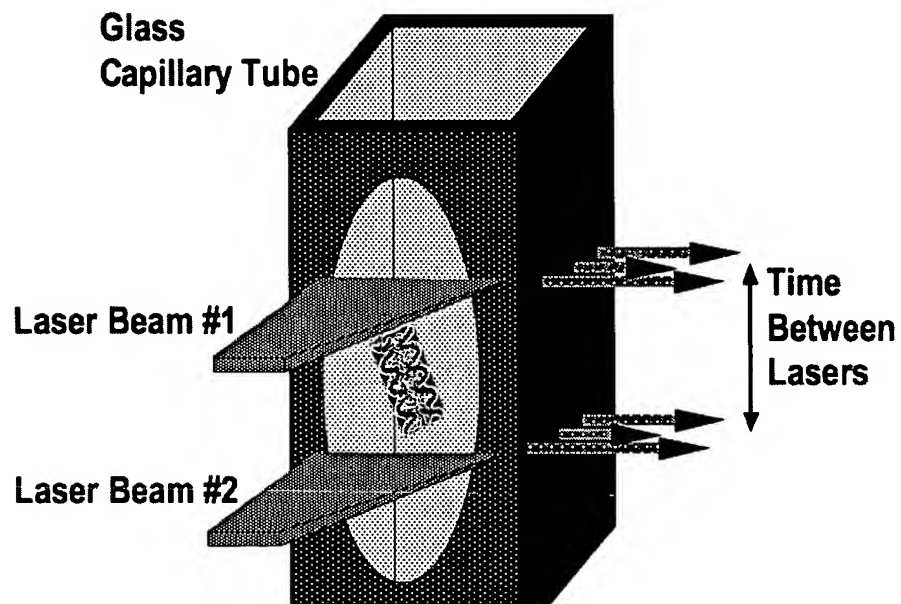
Single Molecule Detector



Schematic diagram of the basic apparatus for single molecule detection using laser induced fluorescence.

FIG. 3

Heart of the SMD Instrument

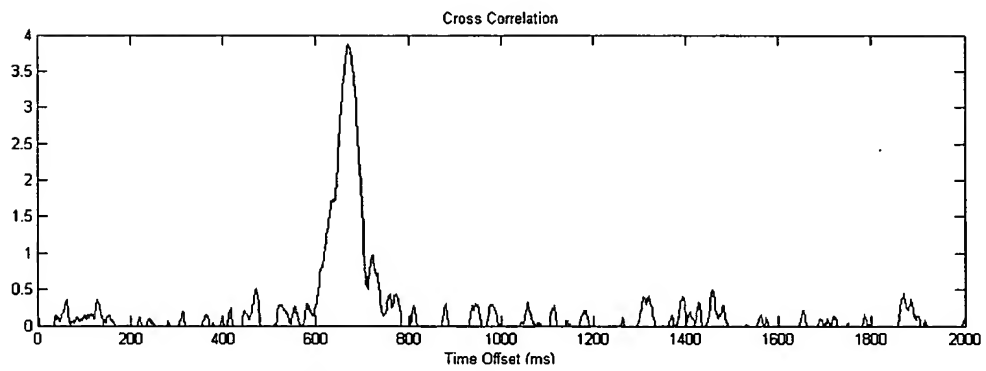


Glass capillary tube forms the heart of the system.

FIG. 4

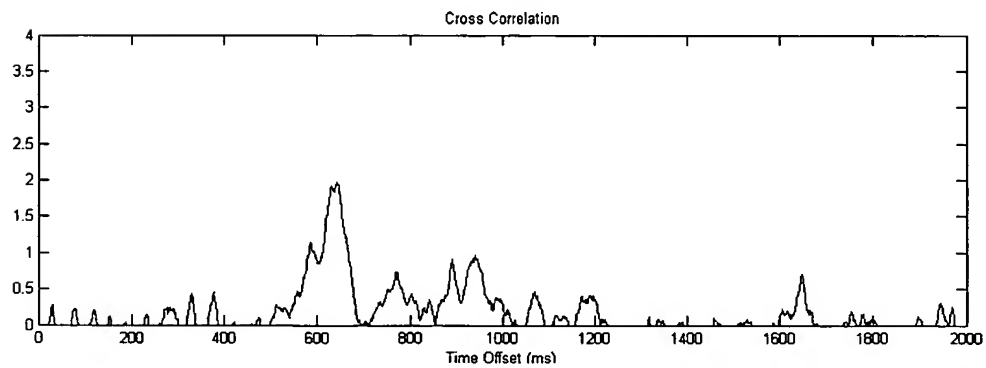
ANALYSIS OF HYBRIDIZED UNITIZED PROBE AND TARGET.

FIG. 4A



Labeled PCR Product

FIG. 4B:



Labeled PCR Product Hybridized with 100 Fold Excess Unlabeled PCR Product.

FIG. 5

INDIVIDUAL MOLECULE ANALYSIS – TIME COURSE OF PHOTON BURST INTENSITIES

FIG. 5A:

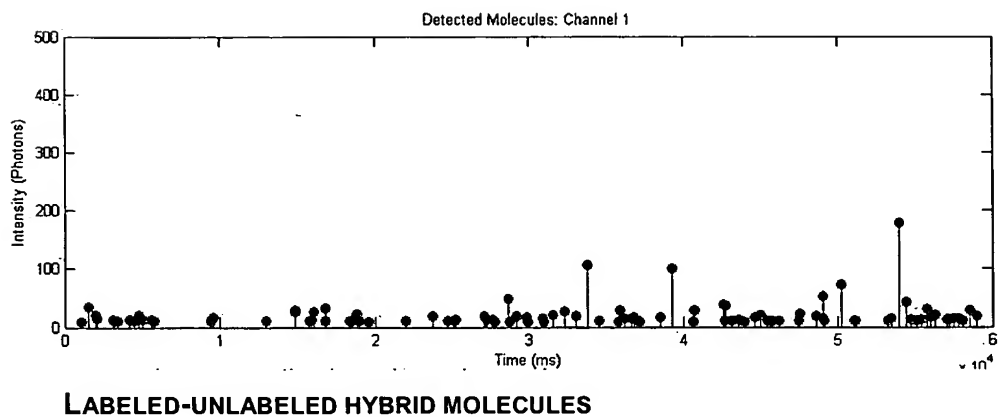


FIG. 5B:

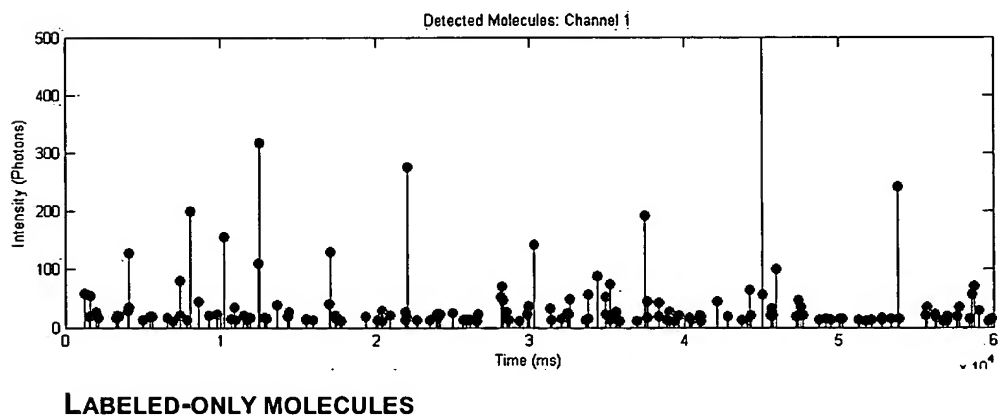
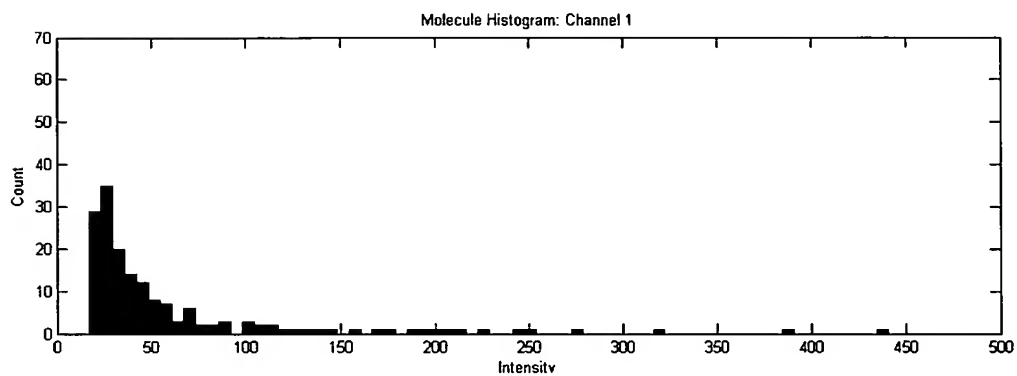


FIG. 6

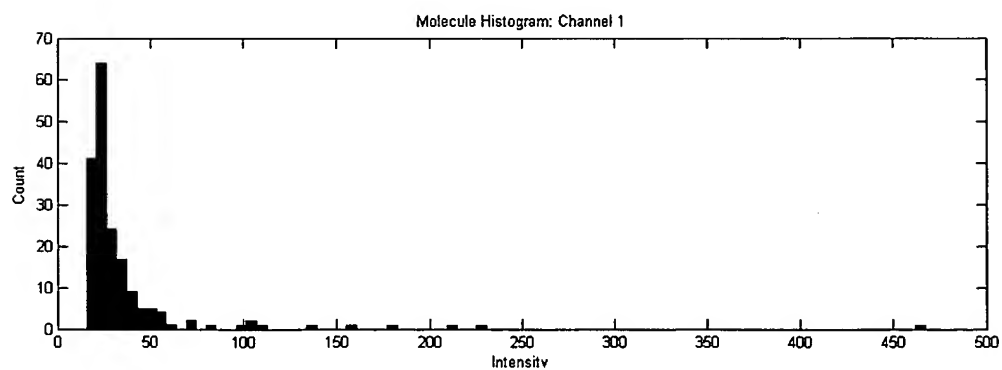
HISTOGRAM OF PHOTON INTENSITIES OF HYBRIDIZED UNITIZED PROBE

FIG. 6A



LABELLED PCR PRODUCT ONLY. 35% OF THE DETECTED MOLECULES HAD INTENSITIES OF GREATER THAN 50 PHOTONS.

FIG. 6B



LABELLED PCR PRODUCT PLUS 100 FOLD EXCESS UNLABELED PRODUCT. 10% OF THE DETECTED MOLECULES HAD INTENSITIES GREATER THAN 50 PHOTONS.

FIG. 7

